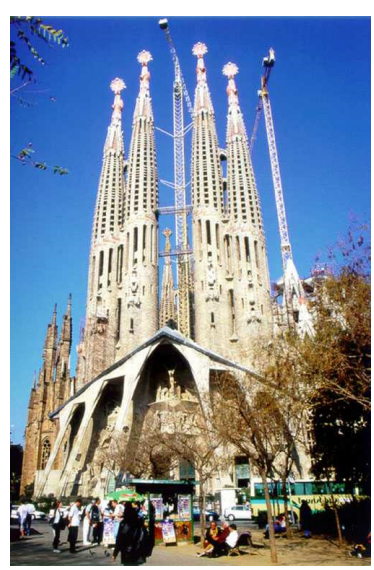
9th Meeting

of the

European Epidermal Barrier Research Network (E2BRN)

in Barcelona (Spain)



Scientific Organising Committee:

Yves Poumay (main organizer), Sanja Kezic, José Parra, Jens-Michael Jensen

officially recognized by the

EUROPEAN SOCIETY FOR DERMATOLOGICAL RESEARCH

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Invitation to the E2BRN meeting 2011 and Call for abstracts

After very successful 7th and 8th European Epidermal Barrier Research Network (E2BRN) meetings organised as satellite meetings of the Annual Meeting of the European Society of Dermatological Research (ESDR) in Budapest in September 2009 and in Helsinki in September 2010, it was decided to organise in 2011 the 9th E2BRN meeting again as a satellite of the 41st annual meeting of the ESDR in Barcelona (Spain).

The E2BRN satellite meeting will take place on September 7 and 8, 2011.

Colleagues who register for the ESDR meeting (ESDR members: EUR300, non ESDR members: EUR500) are automatically registered for the E2BRN meeting at no additional costs. You can also register for the E2BRN meeting only at the reduced fee of EUR100

The program of the E2BRN meeting is provided below.

There are a number of invited lectures and there are also a number of slots for short oral communications (15 minutes including discussion) and a possibility to present posters. The oral communications will be selected based on the submitted abstracts. The submitted abstracts will not be published to allow you to present your latest results.
The abstract should have a length of 250 words or less and should include a description of the purpose of the study, a description of the experimental design, a summary of results, and a conclusion. Please do not include graphics, tables or references.

The abstracts should be submitted to Béatrice Martinet:
email: Beatrice.martinet@fundp.ac.be

The deadline of abstract submission is 7 July 2011.

We hope to welcome you at this satellite symposium. We are very much looking forward to this event!

The organisers

9th Meeting of E2BRN in Barcelona (Spain)

Program

Wednesday, September 7

13:30 - 16:30 **Session 1**
Chair: Michel Simon (Toulouse)

13:30 - 14:00	Olga Lopez (Barcelona): Bicellar nanosystems as epidermal barrier function modulators
14:00 - 14:15	Ryan O'Shaughnessy (London) The protein phosphatase 2A regulatory subunit Ppp2r2a mediates trafficking of tight junction components during epidermal barrier formation
14:15 - 14:30	Philippe De Groote (Ghent) RIP4 is required for epidermal barrier formation and keratinocyte differentiation
14:30 - 15:00	Sophie Thenet (Paris): Jumping from one barrier to another: the intestinal barrier and the unexpected role of the cellular prion protein
15:00 - 15:15	Hélène Duplan (Toulouse) Study of the cutaneous absorption and metabolism of xenobiotics using ex vivo skin models

15:15 - 15:30	Minetta Wunderskirchner (Hamburg) Systemic cholesterol levels mediate age-dependent changes in cholesterol homeostasis in female human epidermis leading to altered corneocyte desquamation
15:30 - 15:45	Paloma Florez (Barcelona): Penetration of Nystatin nanoemulsions through epidermal and mucosa barriers to induce an antimicrobial effect
15:45 - 16:05	Nina Kirschner (Hamburg): CD44 regulates tight-junction assembly and barrier function
16:05 - 16:30	Coffee break and poster viewing

16:30 - 18:00	**Workshop on the epidermal barrier in atopic eczema (Joint session with the COST action on Skin Barrier and Atopic Diseases (SKINBAD))** **Chair: Sanja Kezic (Amsterdam)**
16:30 - 16:50	Stephan Weidinger (Kiel): Recent genetic findings on atopic eczema
16:50 - 17:10	Verena Martinz (Innsbruck): Effects of epidermal barrier disruption on vitamin D3-induced atopic dermatitis-like inflammation in mice

Thursday, September 8

09:00 - 10:30	**Session 2** **Chair: Johanna Brandner (Hamburg)**
09:00 - 09:30	Nathalie Jonca (Toulouse): Corneodesmosin: structure, function, and involvement in pathophysiology
09:30 - 09:45	Frédéric Minner (Namur) Enhanced expression of involucrin and suppressed expression of keratin-10 in keratinocytes indicate response to challenging conditions
09:45 - 10:00	Ana M. Gimenez-Arnau (Barcelona): Epidermal barrier function and hand eczema, what we know
10:00 - 10:30	Truus Roelandt (Brussels): From secretion to desquamation: the pathway between stratum granulosum and stratum corneum keratinocytes
10:30 - 11:00	**General assembly of our network**

E2BRN meeting 2011 is supported by

Pierre Fabre
Dermo-Cosmétique

DR·WOLFF

9th Meeting of the European Epidermal Barrier Research Network (E2BRN)

Date: Wednesday 7 September 2011/Thursday 8 September 2011
Room: 133/134

The E2BRN satellite sessions are open to all registered ESDR delegates. E2BRN delegates only attending this session should pay an on-site registration fee of EUR 100.

PROGRAM

Wednesday 7 September 2011. Session 1
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16.50-17.10 **Effects of epidermal barrier disruption on vitamin D3-induced atopic dermatitis-like inflammation in mice**
Verena Martinz (Innsbruck)

17.10-17.30 **Enhanced skin penetration – inherent or induced**
Jesper Bo Nielsen (Odense)

17.30-17.50 **Fractalkine and its receptor in atopic dermatitis**
David Dombrowicz (Lille)

17.50-18.10 **Developments on atopic eczema research: analysis of skin ceramides**
Joke Bouwstra (Leiden)

BICELLAR NANOSYSTEMS AS BARRIER FUNCTION MODULATORS

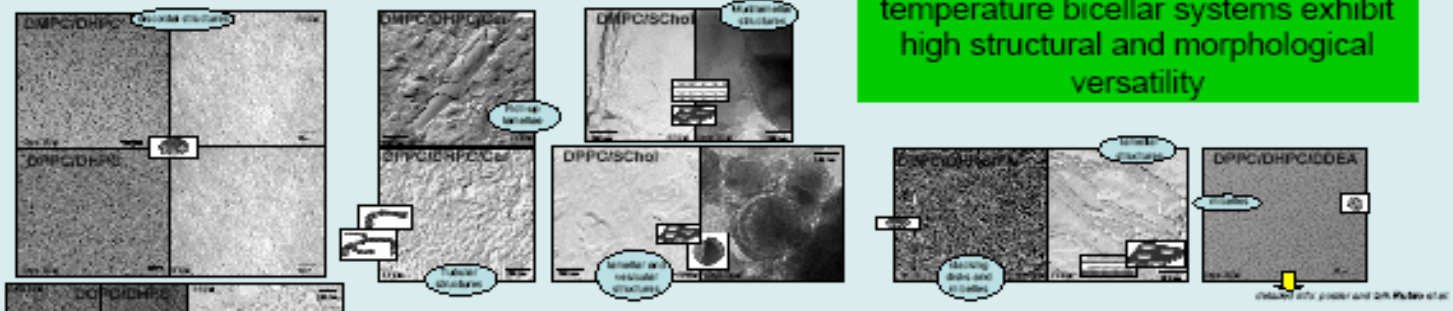
O López, G Rodríguez, L Barbosa-Barros, L Rubio, M Cócera, A de la Maza, G Rodríguez.
I.Q.A.C-C.S.I.C, C/Jordi Girona 18-26, 08034 Barcelona, Spain

Bicellar systems are a fascinating category of versatile and robust lipid assemblies consisting in bilayered disk-shaped nanoaggregates formed in water by long and short alkyl chain phospholipids. Bicelles bridge the gap between micelles and lipid vesicles combining some of the more attractive properties of both systems: bicelles exhibit dimensions small enough to pass through the SC lipid lamellae and their composition consists exclusively in lipids.

This work provides evidence on the *structural versatility of bicellar systems* and on their *potential for skin purposes.*

Structural versatility

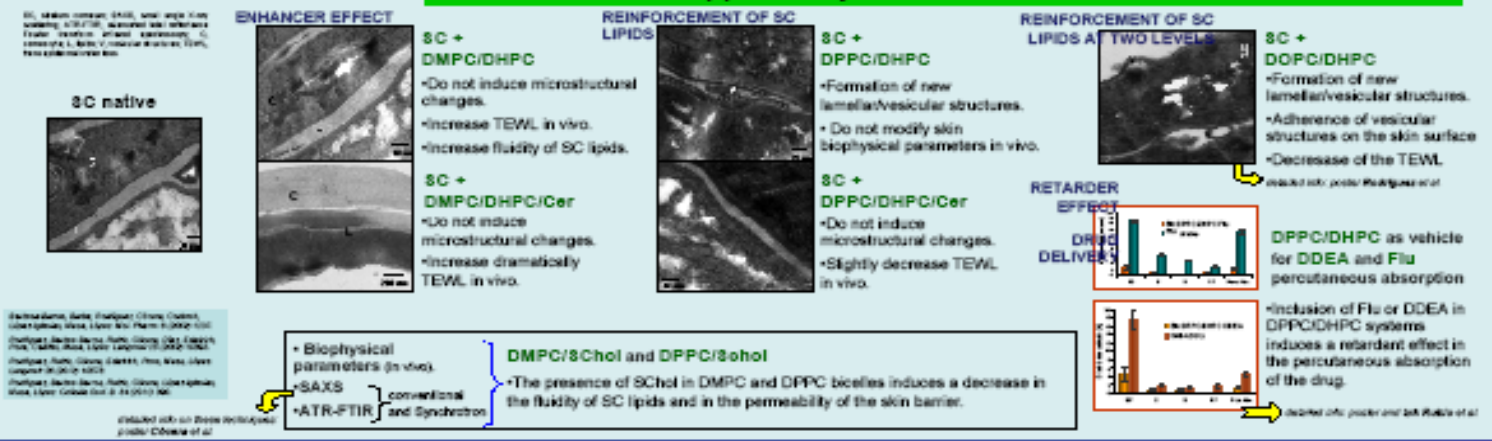
As a function of composition and temperature bicellar systems exhibit high structural and morphological versatility



- Below the main transition temperature (Tm) of the long alkyl chain phospholipids, bicellar systems present discoidal structures, above this temperature an increase in the size and formation of vesicles take place.
- Inclusion of lipids and/or other amphiphilic molecules forming bilayers increases diameter of the disks and induces formation of tubular, lamellar and vesicular structures.
- Bicellar systems with 5% Cer present small disk-like shaped bicelles. Higher amounts of Cer promote a destabilization of the system, probably due to the effect of lateral separation, and other lipid structures are formed.
- Inclusion of drugs and other molecules promotes structural changes as a function of their hydrophilic lipophilic character.

High applicability

Different bicellar systems induce different effets on the skin giving high applicability to these nanostructures



Depending on their composition, bicellar systems interact differently with the microstructure of the SC. These nanostructures emerge as **smart nano-systems** with the possibility to **alter the SC lipid microstructure** and to **modulate skin barrier function** and possess promising applications for skin.